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EDITORIAL

Taxation Shake-Up

One reads that Hon. Norman Rogers, Minister of Labour at Ottawa, recently stated that shortly there will be readjustment of the existing taxation structure and the handling of such social problems as relief following the publication of the report of the Royal Commission on Dominion-Provincial relations, which report is expected in October. This statement was made to the French-Canadian delegates who recently aired their relief troubles before the Dominion Government. What these changes may be, Hon. Mr. Rogers did not say, but it would appear that real estate may have some of the taxation burden lifted and that the question of relief may be set more on the shoulders of the Dominion and Provincial Governments rather than on the municipalities. Such a scheme would undoubtedly assist the building industry but would not in itself solve the taxation problem.

Merely taking money out of one pocket rather than the other does not solve the problem.

Granted that the question of relief is a tremendous burden on the taxpayers of the country, so long as the need exists it must be borne by the taxpayers in some form or other. Money does not grow on trees and if the burden is lifted from one source it must come from another.

Business cannot bear any additional burdens, it is already taxed to the hilt; so is real estate, and the only way seems to place an additional tax on income. If this is done, and municipalities have the burden of relief eased from their shoulders, it should be on the distinct understanding that real estate taxation is eased somewhat. In other words, if relief and other social services are paid by the Dominion and Provincial Governments, then municipal taxes should be lowered. The taxpayers have to pay anyway, but they should not be asked to pay twice.

Low Wages

Elsewhere in this issue we publish a short article illustrating the folly of price cutting, and have come to the conclusion that someone should write a similar article on wage cutting.

Recently we noticed an "ad" in the Help Wanted column of a Canadian newspaper which read something like this: "Wanted, a truck driver with $400 to invest. Steady job guaranteed. Salary $12 weekly."

We have been approached to supply an experienced Cost Accountant

at a salary of considerably less than $100 per month, and we know of many instances of experienced men wanted at a salary which will not allow them to live.

While business yet may be anything but good, there is no excuse whatever for such practices and they should be stopped and stopped quickly.

It is a well known fact and perfectly obvious that inadequate wages benefit no one, not even the man who pays them.

Lowering the purchasing power simply means that there is less business done, and less business means less profit, or even a loss.

We have no desire to labour this point, but we do think that any intelligent business man will agree that it is a vicious practice and if anyone doubt that such practices are widespread, let us disabuse his mind of this at once.

If there was ever any justification for the Price Spread Commission, it is the present time. Is it any wonder that men tell us they are better off on relief than working for such pittances as are offered them in many cases?

Across the Secretary's Desk

Well, I suppose most of you have returned from your vacations and have found just the same difficulty in settling down to work as I did, but that is all over and we hope you feel as refreshed and as tuned up for a heavy schedule that is ahead as I do.

Two weeks' sojourn on the New Jersey shore with daily surf bathing, ocean breezes and the like, plus a visit to the World's Fair at New York and, later, a visit to the "Famous Five" Dionne quintuplets at Callender have worked wonders and already I am knee deep in work.

Several of the Chapters either have arranged or will arrange annual golf games during the next few weeks as a get-together for the coming season, but two Chapters ahve already concluded such features and they were both very successful.

The Windsor Chapter held a very successful affair some weeks ago, at which Bill Orth carried off the major prize. The prize was an electric iron, and there was much merriment due to the fact that Bill is a bachelor. The Windsor Chapter is to be heartily congratulated on its achievements, not only in connection with this first golf game, but in concluding last May a season which was eminently successful for a new Chapter, and already the directors are lining up a program for the new season.

Montreal had its annual golf game and, as will be seen in Chapter Notes, it was a real success. Of course Montreal has a habit of making these affairs most successful.

From Hamilton, we hear constant cries of "When do we hold our golf game?" and no doubt it will be held during the next few weeks.

Yes, the holiday spirit still prevails, and doubtless will do so until the end of the present month, and then to work my hearties, and I hope there will be lots of it for everyone.

That is a reminder that all Chapters are busy arranging programs for next season which we hope will be even more successful than the last. Whether or not it will be, is up to each individual member. Attendance at meetings is necessary not only for your edification but also to show some appreciation of the hard work done by your directors in arranging these programs.

Also, the matter of new members is largely up to you. You can assist by notifying your Chapter secretary of any prospective member and by bringing such prospective members to Chapter meetings.

Vancouver and Winnipeg Chapters have already made a good start in this respect, and it is anticipated that these two Chapters will show a very material boost in membership this winter. We hope, of course, that all Chapters will follow suit, and I will appreciate your co-operation in this respect.

Some of our Western Chapters are very desirous of hearing Easterners speak at their various Chapter meetings, and while it is not easy to have speakers travel West for the express purpose of addressing Chapters, from time to time certain members of the Society do travel West on business and it can be easily arranged for any who care to address some of our Western members to do so.

If any who read this page would care to oblige we shall be very glad to hear from them.

R. D.

Literature Received

Stock Control.

The Australian Accountant. May.

A most interesting article on a subject of considerable worry to many Cost Accountants.

Planning New Installations.

Manufacturing and Industrial Engineering. May.

By an old friend, in the person of A. Sankoff of the Canadian Westinghouse Company, and while somewhat short, the article is a most enlightening one.

The Cost and Financial Accounts.

Cost Accountant. May.

Discusses the relation of these accounts and their control.

A Review of the Principles and Praticce of Cost Accounting.

Cost Accountant. June.

A very complete review and one well worth reading by all Cost Accountants.

LITERATURE RECEIVED

A System of Accounting for Material in a Factory.

The Australian Accountant. June.

Describes fully the physical and financial control of materials in a manufacturing plant.

Cost Accounting in the Baking Industry.

N. A. C. A. June 15.

Cake Bakery Cost Control.

N. A. C. A. June 15.

Controllable Loss Factors in the Baking Industry.

N. A. C. A. June 15.

Three closely related and extremely good articles which should prove to be of immense value to those engaged in this industry.

Accounting for Customers' Property in a Book Manufacturing Plant.

N. A. C. A. July 1.

A most interesting article on an entirely new angle in Accounting.

Use of Uniform System in Hotel Accounting.

N. A. C. A. July 15th.

Hotel Accounting.

N. A. C. A. July 15th.

Two articles of real value to those engaged in this field.

Valuation of Flour Mill Inventories.

Journal of Accountancy. July.

A very complete article which should be read by all those engaged in the milling industry.

Increasing the Efficiency of Labour.

Manufacturing and Industrial Engineering. July.

Discusses the increase possible in the efficiency of labour through an eight-point program.

The Effect of Mechanized Accounting on Audit Procedure.

Accountants' Magazine.

A very complete article on a subject of much concern.

Selling and Distribution Costs.

Cost Accountant. July.

Deals with the study of the problem of Cost Accounting for selling and distribution.

Costing in the Paint Industry.

Cost Accountant. July.

A short but informative article on costing in this specific industry.

Works Organization and Layout.

Cost Accountant. July.

A discussion of layouts and factory organization in connection with Cost Accounting.

Accounting for Non-ferrous Metal Mining Properties And their Depletion.

Journal of Accountancy. August.

Discusses the problem of Accounting in a rather new method of procedure.

Accounting Control at the New York World's Fair.

N. A. C. A. August 1st.

Describes the Accounting procedure necessary in such a large undertaking.

Planning for Tax Economy.

N. A. C. A. August 1st.

An article of real value to all Accountants.

A System of Accounting for Abattoirs' Revenue.

C. A. in Australia.

Describes a method of Accounting in this specific industry.

The Folly of Price Cutting

From time to time we receive from various sources all kinds of notes for Cost and Management. Some we publish, others are not suitable.

Here is one issued by Thompson Products Ltd., St. Catharines, Ontario, which contains some sound advice and which we think will be of interest to our readers.

Jobbers and their salesmen are obviously suffering from the psychological effect of general business conditions, which is evidenced by extensive price cutting.

There is no depression in the replacement parts business, and we believe the evil of price cutting would be corrected if this fact was appreciated and there was a better understanding of how price cutting affected your profit.

Consequently we have prepared this card to show how "The Folly of Price Cutting" works. We hope you can use it to good advantage.

On a basis of 30% gross profit, a cut of—

5% requires 14% more $ volume and handling 20% more merchandise.
8% requires 25% more $ volume and handling 36½% more merchandise.
10% requires 35% more $ volume and handling 50% more merchandise.
12% requires 50% more $ volume and handling 73¾% more merchandise.
15% requires 70% more $ volume and handling 100% more merchandise.
20% requires 140% more $ volume and handling 200% more merchandise.

In other words, if you cut price 15% on a $100.00 sale it is necessary to sell $170.00 in volume and you must handle twice as much merchandise before you can make a profit of $30.00 to which the original $100.00 sale entitles you.

New Members

Montreal Chapter.

E. F. Campbell, Paton Mfg. Co., Ltd., Sherbrooke, Que.

George R. Saunders, Shawinigan Water & Power Co., Montreal.

Hamilton Chapter.

R. F. Sidenius, unattached.

R. A. McCracken, Felt & Tarrant Ltd., Hamilton.

Niagara Peninsula Chapter.

J. M. Cameron, Canadian Cellucotton Products Co. Ltd., Niagara Falls.

Fort William-Port Arthur Chapter.

A. G. Scott, Provincial Paper Co. Ltd., Port Arthur.

W. Somerville, Marshall-Wells Co., Ltd., Port Arthur.

Vancouver Chapter.

T. G. Barbour, Restmore Mfg. Co., Ltd., Vancouver, B. C.

M. A. Gilmour, Canadian Western Cooperage Ltd., Vancouver, B. C.

R. C. Lucas, National Paper Box Co., Ltd., Vancouver, B. C.

Chapter Notes

MONTREAL CHAPTER STEPS OUT—

Two plus two = Fore! (Elementary maths when you are in a foursome and the game is golf.) The morning dawned in one of those crying-laughing moods—many a cost accountant enjoyed the 11 a.m. sympathy of his fellow workers for the loss of a non-existent grandmaw—it was Saturday, June 17th, the day of all days: the Montreal Chapter Annual Field Day. Some of the boys wended their super-knee-actioned way to St. Jerome, Quebec, in 1939 streamlined comfort; others chugged along in resuscitated '26's. None ran out of gas; the "flattyres" stayed at home; only a Laurentian highway can give that soul-satisfying roller-coaster scenic grandeur; grandeur excelled only by the gentle gleam of the "Belanger Cup" in profile—that goal of the costing-golfer, THE BELANGER CUP.

Slander and libel being what they are, the game goes on, and on; the 17th, the 18th, the 19th hole and the ..... calculator (no free advertising in this issue) announces the result. Paul E. Bonnier holds the cup with the almost unbelievable 66 strokes of driver, niblick and putter. Brother L. N. McMillan rolls in second with a mean 75 for the Golf Ball prize. J. L. Shannon wins the Guest Sweater with a score, if you can believe it, of 64 (any man who can get figures as close as that should join up and become a paying life member). Friend L. Robichaud scampered away with the Playing Cards with a round 77 divots. A. Beaulieu and W. Michaud were awarded consolation prizes, their score being —— well,

"The illltimed truth we might have kept—
Who knows how sharp it pierced and stung?"

Formal, but sincere, thanks were given to those who donated prizes:

The Rolland Paper Company, Ltd.

Regent Knitting Mills, Limited.

Consolidated Lithograph Manufacturing Co., Ltd.

Dinner (supper to ordinary folks) was served in the St. Jerome Golf Club dining room, where member and friend supped, sipped, crunched and munched to surfeit. The dinner speaks for itself—not a single member

was capable of attending the dance which immediately followed. It is feared that no dividend will be declared by the St. Jerome Golf Club this season. What a meal, what a meal!

Even in this enlightened world there are those who do not play golf. These forgotten men were entertained royally by the executive and staff of The Rolland Paper Company, Ltd., during the visit through their plant. From all reports, it is difficult to say which group enjoyed the day most, the player or the non-player. All voice a hearty "Let's do it again."

Our Industrial Engineers were not forgotten. Remember news reports about the highway lighting tests being run on one of the Quebec highways? Well, the boys came home by that route. We cannot give the results of their survey in this report, but, Industrial Engineers are Industrial Engineers, and quoting our genial chairman, Walton Blunt, 'nuff sed. And so to bed.

FORT WILLIAM PORT ARTHUR CHAPTER ELECTS OFFICERS—

One thing about the Fort William-Port Arthur Chapter and that is they do get publicity. Below we publish a short article reprinted from the "Daily Times Journal" of Fort William concerning the final meeting of the 1938-39 season, which gives in detail the officers elected for next season.

An interesting and comprehensive talk on Accountancy as applied to the pulp and paper industry was given by A. G. Scott, of the Provincial Paper Company, addressing a meeting last night of the Fort William and Port Arthur branch of the Canadian Society of Cost Accountants and Industrial Engineers, held in the Royal Edward hotel.

Mr. Scott described the routine of his department from the time the camps were opened until the finished product was shipped from the factory.

The books were kept in such a manner that the company knew what the costs were of the various grades and types of paper, said Mr. Scott. He described how the costs were proportioned.

Other interesting sidelights in Mr. Scott's address were that the Provincial Paper Company uses more water from Lake Superior than the cities of Fort William and Port Arthur combined. All the bark from the pulpwood is burned to generate steam. Outside of their own camps, the pulpwood is bought from local farmers and settlers, said Mr. Scott.

At the conclusion of his address Mr. Scott was tendered a vote of thanks by the gathering.

Executive Appointed.

As this was the final meeting of the organization's year, election of officers was held with the following members appointed to the executive:

E. Langford, Times-Journal; J. D. Healey, Port Arthur Shipbuilding Co.; A. G. Scott, Provincial Paper Co.; J. F. Thomson, Thomas Falls Timber Co.; D. R. Harrison, News-Chronicle; H. N. Bickmore, Chapples Limited; M. MacAulay, C. G. A. Pigeon Timber Co.; E. G. Charnock, Ogilvie Flour Mills; E. J. Soulsby, Canadian Car and Foundry Co.; C. E. King, National Business College.

Auditors appointed were: J. H. Charnock and R. C. Lecocq.

P. H. B. Dawson, F.C.A., and F. H. Black, F.C.A., were appointed honorary chairmen.

J. F. Thomson Chairman.

At the conclusion of the general meeting the newly-appointed directors met and J. F. Thomson was appointed chairman of the organization for the forthcoming year.

Other officers appointed were: Vice-chairman, H. N. Bickmore; secretary-treasurer, W. Somerville, Marshall-Wells, Ltd.

PERSONAL NOTES.—

Congratulations to J. W. Taylor, F.C.A., of Price, Waterhouse & Company, Toronto, and a member of our Toronto Chapter, who was recently elected president of the Institute of Chartered Accountants of Ontario.

Walter H. Furneaux, immediate past chairman of the Hamilton Chapter, is motoring through Western Canada on a business trip. Good fishing, Walter.

Congratulations are in order for R. F. Bruce Taylor and Stew. Sorley, members of the Toronto Chapter, who were recently awarded their F.C.A. Both are good fellows and the award in each case is well merited. Heartiest congratulations and best wishes for C. H. Robitaille of Quebec, a member of the Montreal Chapter, who is to be married early next month.

John S. Martin, a member of the Hamilton Chapter, was recently appointed comptroller of the Canadian Westinghouse Co., Ltd., at Hamilton. Heartiest congratulations, John.

Methods of Industrial Conciliation and Arbitration in Great Britain

By

R. LLOYD ROBERTS

Chief Labor Officer, Imperial Chemical Industries, Ltd., London

An Address Before

Seventh International Congress, Washington, D. C.

The present day methods of conciliation and arbitration in Great Britain have their roots in a system of industrial relations based on the experience of some two hundred years of voluntary associations among masters and men and of legislative enactments legalizing those features approved by public opinion.

Throughout this lengthy period the outstanding features have been the efforts on the part of workers to obtain legal recognition for associations formed by them; the constant setbacks which that movement has experienced from legal enactments aimed at its control; and the gradual emancipation of trade unions despite these intermittent reverses. To-day, the series of compulsory and voluntary arrangements between workers and employers for purposes of collective bargaining, or for the settlement of disputes, is

exceedingly complex, and for its understanding some knowledge of the statutory development of the trade union movement is essential.

But there is also another reason which leads me to place emphasis upon the importance, in the present context, of the historical development of trade unionism in Great Britain. In the United States the movement is of much more recent origin and many problems connected with it, which have been familiar to us for many years, are to you almost entirely new. Probably for that reason it has seemed to me in my previous visits to your country that the position of trade unions in my own does not always appear to you in its correct perspective.

At this point in his address Mr. Roberts reviewed the main events and legela enactments concerning trade unions. This part of his speech is omitted here because of its historical nature and length, and is not being made available to the press at the present time. The material will be reprinted in full, however, in the seventh volume of the Congress proceedings, which will appear after the Congress.

You will have gathered from this brief review that the basis of our methods in my country is essentially voluntary, supported by the active and friendly co-operation of our State Departments. Compulsion is anathema to the Britisher—whether he be employer or workman—and both of them will do and sacrifice a great deal to avoid it. We view the use of compulsory powers as a last resort only, and we find them effective in direct proportion to what one might describe as the "lastness" of that resort. We do not legislate in advance of, but rather in support of, public opinion, which is the explanation of the character we have acquired of being a law-abiding people.

Apart from our general dislike of compulsion, however, our objection to State intervention in the field of industrial relations is based on a principle to which we attach the greatest importance. State intervention in any country is only a nice way of saying political intervention, and we believe it would be highly prejudicial to the national interests if questions of hours of work, wages, etc., were to be caught up in the maelstrom of party politics and settlements were effected in pursuance of some pet political theory instead of in conformity with the ascertained economic facts of the situation. We like to keep industrial problems to the calm, unimpassioned atmosphere of the business conference room, where they can be subjected to th necssary rasoned analysis and discussion, rather than let them drift on to the political hustings to be the shuttlecock of competing party pledges and passions. After all, a country's prosperity is built on its business community—employers and employed—and in our view that community should be left to settle its problems itself, without regard to the political complexion of the government of the day, provided always that the greater interests of the nation as a whole are not injured thereby.

It is in accordance with that declaration of faith that our machinery of industrial conciliation and arbitration has been evolved on a voluntary basis. The actual procedure varies from industry to industry. Some industries proceed by way of standing conciliation boards, either with, or without an independent chairman; others, by way of ad hoc conferences as may

be necessary; others have joint industrial councils, based on the Whitley committee's report, to which reference has already been made. Some industries lay it down that failing settlement within the industry itself, any question at issue shall be referred to arbitration; in the majority of cases, however, the decision as to arbitration is left open until there has been an actual deadlock in the internal machinery.

There is a reason for this latter view, which is interesting and explains the objection both of employers and employed, to compulsory arbitration. We have found that the knowledge that arbitration at the end is to be expected tends to stultify the discussions within the industry. Both parties are afraid that concessions they might offer might be used against them at the arbitration hearing and accordingly internal settlements are more difficult to achieve.

It is interesting to note that since the War none of the major industries has had recourse to arbitration on any major issue—such as wages. For many years past, all such questions have been happily settled by the industry's own internal machinery. In point of fact, no arbitration court in Great Britain is really equipped to deal satisfactorily with a major question of wages for an industry, because it has no power to call for books of account, balance sheets, etc., and any award it makes on such an issue must of necessity, therefore, be based on incomplete data.

On the other hand, a court of enquiry, which the Ministry of Labour has power to order has the requsite powers, but it is significant of the hesitancy of State departments to use compulsory powers that only 21 such courts have been held since the passing of the act.

It is interesting, too, to note that none of the major industries adopted the Joint Industrial Council idea which was recommended by the Whitley committee. They were all satisfied that their existing machinery was adequate, having been proved over many years. Coal mining, cotton, shipbuilding, engineering, the railways, iron and steel, all had their procedure well established, though all were not equally successful in avoiding disputes.

The coal industry after the War provided an excellent example of the evils attendant on political intervention in the industrial field. When differences failed to be settled direct with the employers, the trade unions sought a solution from the Government of the day with dire and lasting consequential difficulties to the conduct of the industry. Industrialists view with great disfavour the alacrity with which the Miners' Federation still expects the Prime Minister to conduct negotiations with the coal owners on its behalf.

Speaking generally, however, each manufacturing industry has more or less successfully evolved for itself the type of conciliation machinery best suited to its needs, but as will be readily appreciated, the efficacy of the machinery depends greatly on the degree of efficient organization, both of the employers and of the workers. Where organization is good, the conciliation machinery usually provides in one way or another for three stages of negotiation:

(a) A work conference between the employer and a deputation of the workers, who may be accompanied by a union official if they so desire, in which case a representative of the employer's association would also be present.

(b) A local conference between the local union officials and the local officers of the employers' association.

(c) A central conference between the headquarters authorities of the union and of the employers' association.

Certain industries also have within the works, union shop stewards and committees to facilitate departmental and shop settlements of differences.

The less well organized industries are not in a good position to establish voluntary conciliation machinary and the Industrial Relations Section of the Ministry of Labour is continuously active in assisting those industries to place themselves more fortunately.

It is the considered policy of the British Government to encourage in every industry the formation of its own voluntary machinery, not only for the avoidance of disputes, but so that effective collective agreement may exist for the regulation of wages and working conditions and so lessen the danger of friction. This encouragement is given, as already indicated, by the provision of a permanent industrial court of arbitration, and also by the maintenance in the Ministry of Labour of a staff of skilled conciliators and advisers, located in London and in the main industrial centres. These conciliators render invaluable service by advising the parties separately, or by presiding over joint meetings of the parties, and very frequently secure settlements without recourse either to arbitration or to a stoppage of work.

If, however, the Minister of Labour is of the opinion that a dispute in a particular industry is affecting the public interest and it is clear that the domestic machinery is unlikely to yield a settlement, then he has a further course open to him; he may set up a court of enquiry—to which reference has already been made. That court must enquire into the facts of the case and report to the Minister. The court may call for all relevant information from the parties and its report, without, however, disclosing any confidential information, must be laid before both Houses of Parliament by the Ministry of Labour and is automatically published. The facts elicited during the enquiry may be used by the court as a basis for recommendations which are then available to the parties in dispute. The court's report may thus take on the form of an award which, however, is in no way binding on the disputants. Yet in practice, the court's report is frequently accepted by both sides, or forms the basis on which a settlement of the dispute is often reached.

This method of providing the parties directly concerned, the legislature and the public, with an impartial review of the whole circumstances is effective and creates an atmosphere which is unfavourable to persistence with an unreasonable attitude on the part either of employers or employed.

I should also like to make some reference to the power of the Minister to set up trade boards under the trade board acts. The first of these acts

was passed in 1909 and followed a long campaign for the suppression of sweating in certain industries. The act empowered the board of trade, and subsequently the Minister of Labour, to set up boards in any trade where wage rates were "exceptionally low as compared with those in other employments." Four trades were covered in the first instance and four more added in 1914, by which time about half a million workers were included.

The Whitley committee had recommended the extension of the system after the War to industries where organization was weak, and in 1918 an amending act was passed giving power to the Minister of Labour to establish boards where "no adequate machinery exists for the effective regulation of wages throughout the trade, and that accordingly, having regard to the rates of wages prevailing in the trade or any part of the trade, it is expedient that the acts should apply to that trade." By the end of 1936, more than one million workers were covered in this way by 47 trade boards.

Trade boards normally apply to the whole country, and consist of equal representatives of employers and workers in the trade, together with impartial members, in practice numbering three. They are required to fix a general minimum time rate of wage, with provision for lower rates in the case of juveniles or workers suffering from infirmities. The proposals of the board are published for the information of the parties concerned, and a period of two months is allowed for objections to be raised. The rates are not effective until confirmed by the Minister of Labour, after which they become legally binding, and contravention is liable to punishment by fine or imprisonment, in addition to the payment of arrears due to the workers. The Minister of Labour is responsible for enforcement, and has the assistance of a staff of inspectors.

It will be appreciated that the statutory powers possessed by the Minister to set up a court of enquiry on the one hand, or a trade board on the other, enable him, through his officers, to wield great influence with employers and trade unions. The power to set up a court of enquiry acts as a stimulus to the internal settlement of differences, while the existence of the trade board acts encourages the improvement of organization and the establishment of equitable collective agreements, the existence of which naturally tends to promote amicable relations in any industry.

I must emphasize, however, that the maximum value of these statutory powers is gained from their sparing use. Any tendency to use either of them too freely or too readily would undoubtedly militate against their efficacy, and we in Great Britain have occasion to be glad that the traditions of our public service permit the continuity of a policy of discretion in this matter, regardless of the political faith of the Minister of the day.

It may not be apparent at first sight that a reference to trade boards is properly included in a talk on "the machinery of industrial conciliation and arbitration." A little thought will show, however, that any measure which is directed towards orderly regulation of wages in an industry is likely to promote peace in that industry and may therefore be quite appropriately described as a conciliatory device. It is certain that disharmony and disputes would occur far more frequently in those 47 industries

covered by trade boards if they were not so covered, and I make no apology, therefore, for having included a description of them in my remarks.

By the same reasoning, I must allude to four other industries in relation to which conciliatory measures of somewhat of the same character have been applied: agriculture, coal, cotton and road transport.

Agriculture has never been strongly organized, and instead of applying the trade board acts to this industry, special machinery has been set up. During the War, cultivation was strictly regulated, and in addition minimum rates of wages were enforced in England and Wales by an Agricultural Wages Board. In 1921, this system was replaced by voluntary conciliation committees in the various districts, and rates fixed became legally binding only if registered by the committees. This system proved unsatisfactory, and came to an end in 1924 when the Agricultural Wages (Regulation) Act was passed.

This act provided for the establishment of agricultural wages committees in each county or group of counties in England and Wales. Apart from the requirement to fix minimum time rates, each committee may also fix minimum piece rates and special rates for overtime. The basis on which the rates are to be determined was laid down as that which would enable a man to maintain himself and his family in a reasonable standard of comfort in relation to his occupation.

The composition of the committees is determined on parallel lines with trade boards. A central agricultural wages board was set up to co-ordinate the work of the separate committees, and rates of wages determined by the committees required the approval of the board before becoming effective and legally enforceable.

As you may be aware, the coal mining industry has been the scene of many bitter disputes, and it was for this industry that the first legislation stipulating minimum wages specifically in one industry was passed. Statutory requirements were laid down in the Coal Mines (Minimum Wage) Act of 1912 with the object of safeguarding underground workers against unduly low earnings. Provision was made for the constitution of representative bodies. In view of the high state of organization in the industry, no provision was made for enforcement. The wages of certain classes of labour were improved as a result of this legislation, but the system was affected by the outbreak of the War and since then the act, though it remains on the Statute Book, has become moribund. The chief explanation of this lies in the fact that the level of wages reached by voluntary agreement is higher than the minimum rates laid down in the 1912 act.

These two industries provide examples of regulation imposed from above. The two remaining, cotton and road transport, are slightly different, for legislation has been preceded by agitation on the part of good employers for protection against the lower standards of their competitors.

The cotton industry has been very depressed since the War and as a consequence serious disputes have arisen from time to time. In 1932, therefore, new conciliation machinery, including independent persons, was set up to deal with disputes which could not be settled by the ordinary processes. In the weaving section of the industry, however, the failure

of an increasing number of employers to observe current contracts was rapidly undermining the system of collective agreements, and the Cotton Manufacturing Industry (Temporary Provisions) Act, 1934, was accordingly passed. This Act provides for statutory effect to be given to rates of wages agreed upon by organizations in the industry, representative of the majority of employers and operatives, and so prevents a minority from undercutting the rates determined by collective bargaining.

The initiative to make proposals as to wage rates was left to the industry itself but the Minister of Labour was given power, on being approached by the parties jointly, to appoint a board consisting of a chairman and two other members, all unconnected with the industry, to consider the proposals, provided he was satisfied that the parties were representative of the industry. If the board brings in an unanimous recommendation that an order, giving statutory effect to the rates set out in the application, should be made, the Minister is empowered to make such an order and its terms are required to be included in all contracts covered by the order. Contravention of an order carries the penalty of a fine, although no special provisions were made for enforcement.

In the road transport industry the trend of legislation has approximated rather more closely to the trade board system. The Road Traffic Act, 1930, set up traffic commissioners and introduced a system of licensing for passenger services. In addition to introducing regulations to prevent excessive hours and to improve working conditions, the grant of a license was made conditional on the observance of standards not less favourable than those observed under the "fair wages" clause to which I shall refer in a moment. It was provided that disputes arising out of this condition should be referred to the Industrial Court. Regulations were included in this act to prevent excessive hours of work in the goods section of the industry, while under the Road and Rail Traffic Act, 1933, the system of licenses was extended to cover goods haulage.

In order to foster the standardization of conditions, which varied widely from district to district, a national joint conciliation board for the road motor transport industry (goods), consisting of representatives of the two sides with an independent chairman, was set up. It was, however, a voluntary body with no statutory authority, and owing to the weakness of organization and the large number of small employers, the provisions of its agreements were largely ignored. This unsatisfactory state of affairs led to the appointment of the Baillie committee in 1936, and on the basis of its report, the Road Haulage Wages Act, 1938, has recently been passed. The machinery provided for in the act comprises a central board and area boards consisting of representatives of the employers' organizations and the trade unions with the addition of impartial persons where necessary. The Minister of Labour is empowered to make orders on the recommendations of the central board, and the contravention of an order renders an employer liable to a fine. Furthermore, conviction may lead to the revocation or suspension of a license by the licensing authority. Provision has been made in this case for the appointment of officers to assist in securing observance of the act.

At this point, in order to complete the picture of Government regulation of wages, I think I may usefully add a few words on the subject of the Fair Wages Clause.

The original resolution on which this clause is based was passed by Parliament in 1891 as a result of an agitation claiming that the Government should itself deal with workers as a model employer. The clause was remodelled by a new resolution in 1909 to the effect that all Government contractors and sub-contractors should pay rates of wages and observe hours of labour not less favourable than those commonly adopted by employers generally, having regard to the nature of the work and the district in which it is performed.

A clause dealing with conditions of labour has since been inserted in all Government contracts, and a committee was set up to advise the contracting departments of the Government in the administration of the clause. The principle of the fair wages resolution has not been applied compulsorily to the contracts of local authorities. It has, however, been recommended to them and is in operation, in principle, throughout the country, although many local authorities have adopted their own particular forms of the clause.

Apart from its application to Government contracts, the policy of requiring the payment of "fair wages" has been extended as a condition of the receipt of Government assistance by way of subsidy, grant, guarantees and license. For instance, the requirement was embodied in acts relating to beet sugar, civil air navigation and the cinema film industry. It was also a requirement under various housing acts. Similar provisions were included in agreements with the London Passenger Transport Board and the main railway companies where the Government gave its guarantee to loans issued by them. In addition, as we noted earlier, the observance of fair wages was made a condition of license for road transport under the Road Traffic Act, 1930, and the Road and Rail Traffic Act, 1933.

I have so far endeavoured to give you an indication of the chief features of our methods of conciliation and arbitration as they relate primarily to industries as a whole, and to matters lying normally within the scope of industrial collective agreements.

As will be realized, however, many problems lying outside the scope of collective agreements call for solution within individual undrtakings and, in addition, there are a great many individual firms in Great Britain who do not belong to an employers' association or adopt the agreed standards of their industry and who therefore must necessarily provide conciliation machinery within their own establishment. There is no form of legislative sanction in this field and the development of such machinery is purely voluntary.

Consultation between workmen and the management has a long history but before the stimulus given to the movement by the War, it consisted largely of the presentation of complaints by workers' deputations. During the War, the many changes in industrial conditions and the diversity of new problems requiring solution led to greater contact between the management and the workers.

The Whitley committee recommended the establishment of joint works councils to co-operate with the district and national councils. At the same time, the Ministry of Labour conducted an enquiry and issued a report on the origins constitution and functions of works committees, and followed this by publishing a model constitution capable of adaptation to particular industries and establishments.

The Ministry suggested the establishment of joint councils instead of purely workers' committees, and that from two to four members should represent the management with from five to twelve members representing th workers. The representatives of management would be appointed by the firm while it was proposed that the workers' representatives should normally be trade union members.

In the operation of the scheme difficulties arise in obtaining representation for different classes of labour, particularly in works which are complex. The solution to this problem lies with the establishment itself. In some cases proportional representation has been adopted. Elections are normally by ballot, and members usually hold tenure for one year, subject to re-election. Meetings are held regularly and in large undertakings subcommittees are set up to facilitate the work.

The main objective of the works councils is to prevent friction and to help to maintain industrial peace within the factory. The work of the councils must not conflict with the provisions of collective bargaining, however, and the Ministry recommended that wages and hours should not be amongst the subject for consideration. But beyond this, innumerable questions remain for discussion, including works rules, the distribution of working hours, the settlement of grievances, physical welfare, discipline, training, the testing of suggested methods for improving efficiency and recreational activities.

Interest in works councils was most marked in the immediate post-War years. This interest subsequently flagged and many of the councils came to an end with the return to more normal conditions. Progress according to the Whitley plan was limited and since 1925 there appears to have been little change in the effective number of councils. The chief explanation of the limited application of joint works councils is probably the apathy shown by both trade unions and employers' organizations. Their usefulness depends very largely on the interest and enthusiasm shown by workers and management, more especially the latter. Where the difficulties of the initial years have been successfully surmounted the councils have contributed in no small measure to improved relations between workmen and management, and the continuity of contact provided has led to an increased understanding by eaih side of the other's point of view.

Perhaps in passing I may be permitted to make reference to the measures adopted by Imperial Chemical Industries. That company has something approaching 60 different plants in the United Kingdom and each plant has its own works council, representative equally of management and of operatives. The works councils at factories making similar or allied products send delegates to a group council of which there are 11 covering the company's varied manufactures. These group councils in turn elect

delegates—management and operatives in equal numbers—to a central council, which is presided over by the chairman of the company and meets twice a year. Each of the company's plants has at least one management and one operatives' representative on that central council where any matter may be discussed except those which fall within the company's collective agreements with the trade unions.

In addition to the central council, which might be regarded as a sort of domestic parliament, the company maintains a standing trade union advisory council. That council is composed of the chairman of the company, six directors, and myself, together with eight leaders of the larger unions concerned in the company's plants. Its functions are purely consultative and advisory, but it serves to maintain a continuous contact between the executive authorities of the company and those of the trade unions in the same way that the central group and works councils maintain regular contact with the operatives themselves. The maintenance of contact in this way is regarded by us as constituting a highly effective method of conciliation.

Despite the apparently rather haphazard and indefinite nature of the British system for dealing with industrial disputes, the various types of machinery which I have reviewed have proved in practice to be very effective in settling the diverse cases with which they have to deal.

The principles underlying the British system of conciliation and arbitration are clear. Wherever possible the State refrains from interfering with the private relations of employers and workers. Strongly organized bodies of employers and workers are well able to safeguard their own interests, and the States leaves them alone except where their own machinery proves defective. When a breakdown occurs, the Government still attempts to settle differences by conciliation before resort is made to arbitration. Even in disputes which are submitted to arbitration, awards are not binding unless the parties themselves are willing to accept the authority of the arbitrator or tribunal.

Where the parties are badly organized or ill-matched, the Government intervenes by setting up trade boards for the industries concerned. One of the main objects of this system is to foster the growth of responsible organizations so that governmental regulation may be reduced to a minimum.

The Government also assists the efficacy of voluntary agreements as in the cotton and road transport industries by applying compulsion to dissident minorities.

Essentially, however, industrialists in Great Britain—both employers and employed—prefer to rely on voluntary action as opposed to State compulsion in which many dangers are seen.

As a democracy, my country likes to tread the path of freedom in this matter as in others, believing that though progress may be slower, the self-discipline attained in industry through voluntary trial and error is a greater national asset in the long run than is rectitude imposed by decree. However, we are fully conscious of our own shortcomings and, therefore,

this contribution on behalf of Great Britain is tendered to the Congress with some degree of diffidence, but in the hope that its necessarily cursory survey may prove of interest.

Inter-play of Brewery Costs

By
CHARLES REITELL

An Address Before
Montreal Chapter, April 21st, 1939

An understanding of the interplay of four factors—Costs, Prices, Volume and Net Profit—is vital to the successful management of every brewery enterprise.

The difficulty faced in answering the following practical, every-day questions—and many others like them—shows how important the interplay of the above factors is in operating a brewery business:

"What is the effect on my net profit if I cut my price five cents a case in No. 6 Distributor Zone?"

"If I succeed in increasing my volume in the South 20 per cent. by reducing my case goods 5c what will be the effect on my net profit for the area?"

"How much additional selling expense can I afford to go after that added volume?"

"My delivery costs are high in Zone 27 this month. How much of it is due to the higher costs that come with the falling off in volume, and how much of the increased costs are due to inefficiency in the actual operation of my trucks?"

"Should I deliver free in Distributor Zone 26, or should I have the distributor do the hauling and allow him nine cents a case?"

"How much volume and what sales revenue must I procure from the New England market to cover the selling and advertising expense needed to develop and hold this territory?"

From even these few practical questions you realize how interlocked are Costs, Prices, Volume and Net Profit. Unless these four factors, and the specific influence of each, are measured simply, quickly and accurately, then the major executive is forced to guide his enterprise with defective steering equipment. He cannot intelligently plan ahad; he cannot see the influence of specific price changes upon net profits; he cannot measure the effects of changing volume upon profits or upon unit costs; and he cannot determine how much of his loss or gain is due to good or bad performance, and how much is due simply to high or low volumes. In short, he just cannot be a smart, intelligent manager.

Within the narrow confines of this article I can set forth but a few of the important findings that come with full knowledge of the four above-

mentioned factors. Each illustration used is taken from the experiences of an actual brewery. I leave to the reader the final question as to whether or not these findings are vital in arriving at major decisions of policy.

Four specific relationships are discussed:

1. The measurement of price changes upon the net profit structure.
2. The effect of volume changes upon the net profit structure.
3. The separation of increased costs that come with falling volume from those increased costs because of inefficient operations.
4. The influence of fixed charges upon the net profit structure.

I must assure you that the above four relationships are not all the important ones made by sound and successful brewery management. They provide sufficient examples, however, to drive home and double-clinch the argument that without knowledge of the inter-play of costs, prices, volume and net profit the modern executive is flying blind without instruments.

Let us take up first:

1. The Measurement of Price Changes upon the Net Profit Structure.

Blind price cutting is the common curse of most industries; particularly is this true of the brewing industry. In this industry price cutting is doubly insidious; first, because the effects of price cutting upon costs and profits are often not known by the perpetrator; and, second, because the cutting is hidden, being made through push-overs, cut-backs, "one-free-case-with-ten," advertising allowances, and a host of other demoralizing procedures.

Do not misunderstand me! I do not argue that prices should not be reduced. Executives should strive to keep prices as low as is consistent with the maintenance of adequate wages and salaries, quality standards and reasonable profits. But no lower!

Charts No. 1 and 2, taken from a specific brewing company, portray the deadly effects of price reductions, and give weight to the contention that the executive making the price cuts had better measure the results before committing the act.

Chart No. 1 shows the effects of an over-all price reduction of five per cent. Because of such a cut in price, the net profit earnings start at 100,000 barrels instead of 88,500 barrels. In short, there must be an increase of 13 per cent. in volume to compensate for the five per cent. price cut.

Chart No. 2 shows the effects on net profits of a 50c per barrel reduction in the price of keg goods in Distributor Zone No. 31 of this same company. The keg price to this zone was reduced from $13.00 to $12.50 per barrel (i.e. 3.85 per cent.). With the elimination of the Federal tax of $5.00 per barrel it meant a reduction from $8.00 to $7.50, or in reality a cut of 6.25 per cent.

Note the effects on the net profits on keg goods coming from this particular zone. The net profit dropped from 78c per barrel to 28c per barrel—which means over 64 per cent. in net profits. And it is the net profit decline that is most important. Never lose sight of that fact!

As Chart No. 2 clearly shows, a drop of 6¼ per cent. in price reduces the net profit 64 per cent. in this particular zone.

This net profit decline constitutes the "great drop" that sales managers often have difficulty in understanding, and it is the decline that is most disturbing to stockholders as well as to the stability of your company. Let all of us, including sales managers, never miss the fact that when competition compels our operating on narrow profit margins, then even a slight drop in the price entails a very large decline in the net profit. The closer the margins the greater the per cent of drop!

The above analyses are but two of many that are possible when you have break-even charts for the company as a whole, as well as for each and every type of selling, be it retail, distributor, direct consumer, or chain, and for each type of product in every territorial zone.

Often the question is asked: "What are you going to do if the other fellow is cutting 50 cents per barrel, or perhaps 10 cents per case?" The answer comes clear: "I am well managed—I know my costs and the influences of price and volume. I know it is suicidal for me and unfair to my stockholders and to the industry as a whole to meet such ruinous prices. If my competitor wants to go into a deadly tail-spin I believe I can stand it better than he. So let him take the beating."

Many of the failures—in fact most of them—occurring in the brewing industry during the last four years took place among price cutters, rather than among those who steadfastly held to sound and more conservative pricing policies. Unfortunately many of these foolish price cutters sold below cost and did not know it. Whether they knew it or not, they evidently thought that by cutting prices they would run off with a large amount of competitors' volume. No doubt they thought that their price cutting procedures somehow would lull competitors to sleep. Crazy beyond words!

Table No. 1 and Chart No. 3 are taken from another brewery whose budgeted volume is 400,000 barrels a year, and show clearly the effect of price cutting upon net profit. If prices in this company are cut 10 per cent., the net profit drops 52.6 per cent. If prices are increased 10 per cent., the net profit increases 52.6 per cent. These calculations assume the volume remaining constant. Even a 5 per cent. change in the price structure in this concern means a change of over 26 per cent. in its net profit.

Summarizing the results of price changes upon net profit for this company, we find that for every one per cent. change in price it must face more than a five per cent. change in its net profit realization.

So much for the effects of price changes upon the profit structure. Now, let us go to our next major division.

2. The Effect of Volume Changes upon the Net Profit Structure.

Within recent years many breweries have had to face the results that come from inadequate volume. The falling off in volume has a much more serious effects on the net profit earnings than is sometimes realized.

In the particular company from which the figures are taken, a falling off in volume of 10 per cent. results in a loss of 25.1 per cent. in net profit. On the other hand, an increase of 10 per cent. in volume shows a 25.3 per cent. increase in net profit. (See Table No. 2.)

This is on the total sales of the company. This company, however, knows the effect of volume change in each of its marketing zones. In the zone showing the greatest change because of volume, a 10 per cent. decrease in volume of "steinies" showed a 39 per cent. drop in net profit.

The influence of volume change, however, is not so great for the average company as that resulting from price change.

	Volume 400,00 Barrels		
	10% Reduction	Present Price	10% Increase
	$8,325	$9.25	$10.175
	Per Bbl.	Per Bbl.	Per Bbl.
Sales	$3,330,000	$3,700,000	$4,070,000
Total Costs	2,997,000	2,997,000	2,997,000
Net Profit	$ 333,000	$ 703,000	$1,073,000
% Change in Net Profit	—52.6%	*	+52.6%

	Volume 360,000 Barrels	Volume 400,000 Barrels	Volume 440,000 Barrels
Net Sales at $9.25 Per Barrel	$3,330,000	$3,700,000	$4,070,000
Fixed Costs	980,000	980,000	980,000
Variable and Semi-Variable Costs	1,814,000	2,017,000	2,209,000
Total Costs	$2,794,000	$2,997,000	$3,189,000
Net Profit	$ 536,000	$ 703,000	$ 881,000
Net Profit Per Barrel	1,488	1.757	2.002
Per Cent. Change in Net Profit	—25,1%	*	+25,3%

Generally speaking, price per cent. change is more than twice as influential upon net profits as is volume per cent. change.

In the above company a price cut of 10 per cent. reduces its net profit 52.6 per cent., while a volume loss of 10 per cent. reduces the net profit 25.1 per cent.

Let the above be a solemn warning to those who hope to increase their volume 20 per cent. by reducing prices 10 per cent. The result means nothing but going deeper, and deeper, into greater losses.

We now turn to the third division of our study, a cost analysis based upon two related factors—volume and efficient performance.

3. The Separation of the Increased Costs that Come with Falling Volume from Those Increased Costs Because of Inefficient Operations.

In the quiet of your office, or study, Mr. Brewery Executive, why not ask yourself this all important question:

"Can I analyze my changing costs, both in manufacturing and in merchandising, as to—

(a) those attributable to volume fluctuations, from

(b) those that occur because of a falling off, or an increase, in the efficiency of my operations?"

We all realize that operating performance can be bad when volume is high, and good when volume is low, and vice versa.

For sound and adequate control purposes, the dual influences of volume versus efficient operation on costs must be separated once and for all. Until they are so separated, there is little use of finding fault with a supervisor because of increasing costs. More than likely he will alibi out by claiming that a falling off in volume is the cause.

Naturally, it is impossible to set forth in this article the principles and methods of standards and budgetary control whereby the above separation is made for every operation in the plant and in merchandising. I can indicate, however, by a chart taken from the operating files of a company, just how the separation is made. I will take a very small operation which, however, is indicative of method of every other activity, be it large or small.

Chart No. 5 is a graph of allowances made for the monthly repairs of a battery of 1½ ton trucks used in retail delivery. The normal monthly volume for these trucks is 8,370 thousand case miles. If the normal volume is enjoyed, the allowed cost is $345. If only 80 per cent. of the case miles are run, then $322 is allowed.

Last September the operation was 95 per cent. of volume, and the actual truck repair costs were $334.60. Looking at the curve of expenses, we find that at 95 per cent. activity, $341 was allowed. Thus a saving of $6.40 was made in performance. Now, as to volume, taking 95 per cent. of the normal shows $327.75, which figure subtracted from $341 (amount allowed at the 95 per cent. activity), indicates a loss of $13.25 because of volume. Summarizing:

Loss because of Volume	$ 13.25
Gain because of Efficient Performance	6.40
Net Loss	$ 6.85

How unjust it would be to censure the repair foreman for the loss of $6.85. He did a better job than the budget allowance set. It was off-volume that played havoc.

The outstanding contribution that standard costs and budgetary control gives to a company is indicated by this little illustration just given. What is done, in a given operation, is measured against what should have been done, and at the same time the influence of volume is separated from the measurement. In brief, performance control is separated from the effects of volume.

We now turn to the last group of influences that affect the net profit structure.

4. The Influence of Fixed Charges Upon the Net Profit Structure.

"Why is it," the reader asks, "that we find such sweeping changes in net profit with only slight changes in the volume and price structures?"

The answer goes right down to the rock-bottom financial structure of your company.

If your company has large fixed costs, then net profit changes because of volume or price are greater than if you had small fixed costs.

Charts No. 6 and 7 illustrate this principle. Chart No. 6 shows

the location of the break-even point where fixed costs are comparatively low, while Chart No. 7 shows a larger proportion of fixed charges.

Any company's net profit prospects, as disclosed by the break-even chart, are greatly dependent upon the characteristics of the Fixed and Variable Costs, and how they combine at different volume levels to form the Total Cost.

The principle that may be clearly noted from these two miniature break-even charts is:

The lower the break-even point on the chart, the larger will be the field of profitable operations.

Conversely, the higher this cross-point of Sales Income and Total Cost, the smaller will be the opportunity for profit.

This location of the break-even point may well be termed the "profit potential" for, together with Sales Income and the proportions of Fixed and Variable Costs, it locates and bounds the area in which profits may be earned.

The Unit Break-Even Chart.

Most executives like to think in terms of unit costs and unit profits. This type of thinking is of great value when a given product, in a given territory, is under discussion.

Chart No. 8 is a type of chart which portrays this unit picture. As is seen from this chart, the fixed cost, per unit, falls as the volume increases. When 51,000 barrels are reached in volume then profit starts.

Summary.

If the writer has clearly set forth the inter-play of costs, prives, volume and net profit, then the brewery executive reading this article must realize:

(a) That a knowledge of this inter-play is fundamental to the understanding of his business.

(b) That different trading zones and different products vary widely in how they produce net profit, and therefore an over-all profit picture will not suffice for sound, intelligent management.

(c) That an intelligent appraisal or understanding of the factors influencing his costs—both of production and distribution—requires a knowledge of the cost variances which are the result—

1. of operating efficiency, and
2. of volume fluctuation.

Without this saparation no real control is possible.

(d) That every addition to fixed charges makes more hazardous any downward changes that may be experienced, be they in price or volume.

(e) That ordinary cost systems fail in basic essentials because they are unable to supply important information regarding the effects of changing costs, volumes and prices.

(f) That only through the adoption of standards for costs, coupled with budgetary controls, can a modern brewery executive makes those interpretations of his business that are vital to its adequate control, and to its permanent stability.

Unfortunately it is not possible to use the charts shown by Mr. Reitell in this address as the cuts were not available.—Editor.

SITUATIONS WANTED

Young man, graduate in Commerce of McGill University, with experience in Auditing, General and Cost Accounting, seeks change where ability will be rewarded. Quite capable of taking charge. Position must be permanent and with scope for advancement. Apply Box 43, "Cost and Management."

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Will install and operate cost system permitting cost and inventory control, monthly profit and loss statements for group of smaller industries in Western Ontario, or if for one company fill position of accountant, comptroller, internal auditor or treasurer. Apply Box 46, "Cost and Management."

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Costing in the Steel Tube Trade

By

S. HAYS, B.COM. (HONS.), F.S.S.

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The Processes Involved.

A few ideas of costing principles as followed in England will, I hope, be of interest to accountants in Australia. The details given relate to a weldless steel tube and cylinder manufacturing firm having some 700 employees. In the understanding of any costing system the manufacturing processes involved should be known. In the particular case we are considering, the works, for costing and organization purposes, are divided into nine major departments, some of which have sub-divisions. Steel, in bar or billet form, is the main raw material, but large quantities of consumable stores are also required. Not all work passes through every department; in some cases perhaps only three or four departments are affected by particular orders.

The first department, which is situated alongside the railway sidings, is the steel cutting shed. Here the bars of steel are cut into the requisite lengths as determined by the production engineer for each particular job. Department 2 is the hot drawing shop in which the billets are heated in billet furnaces and then punched and drawn by means of hydraulic punches and presses. Only comparatively large bore tubes and cylinders pass through this department. Department 3 is the cold drawing shop which contains hydraulic presses for drawing cylinders and tubes in the cold and also annealing furnaces, for annealing must be carried out after each cold drawing operation. The fourth department is the shop in which small-bore tubes are punched and hot-drawn with, of course, attendant furnaces. Department 5 contains electrical draw-benches for cold drawing tubes dealt with in the previous department, as well as acid boshes for pickling the scale from tubes and cylinders. Department 6 is the tube turning bay in which both cylinders and tubes are turned to fine dimensions. Department 7, the bottle shop, deals solely with cylinders. Here the necks of cylinders are formed. The next department, the blacksmith's shop, is mainly for maintenance purposes but certain orders need work to be done there. The last department, the warhouse, houses the testing departmnt, packing and loading bay, and sundry machines for sawing tubes to length, etc. Department 9, this last department, is back again to the railway sidings.

The Recording of Prime Costs.

Every order received is given a number and all steel and stores required for the order must be obtained by means of a requisition, drawn up and signed in the appropriate manner, which bears the number of the order for which it is intended. Naturally, both the steel stock and stores department are in charge of a responsible official. When steel or stores have been issued for a specific order the requisitions are sent from the works

to the costs department and to the clerks who record steel stock and stores. The processes and departments which each order must pass through are determined by the production engineer, who naturally considers the volume of work already in a department and tries to group similar types of jobs together in order to lessen the time spent in changing tools. However, when any material passes from steel stock to Department 1 or from any department to another, a transfer note made out by a clerk and signed by the foreman passing on the material, must be sent with it. This enables the foremen and checking clerks, as well as the progress department, to keep track of any and every order. The allocation of material does not, however, involve so much difficulty as does the recording of labour spent on a job.

In each department the checking clerks are not only responsible for recording the passage of material from one department to another, but also for recording the time spent by each individual worker, if working separately, or by each gang on each particular order. Not only does he record this but he also specifies each particular process. In some cases, piece rate prices are paid, when the number of processes performed will also be registered. The accuracy of these records can be relied on because the checkers are all in sympathy with the costing system and understand its various ramifications. Of course, all the work done in the department is not for purposes of direct production; some is for maintenance, and some, whilst it is directly productive, cannot be allocated to any particular order. Work done on maintenance is allocated where possible to the individual machine (all machines are numbered), or to a department and the workers' time set down by the checkers as in the case of production. Time spent in changing tools or furnace men's labour cannot be set down against any one job. Such time is, however, set down on the production sheets which are different in colour from maintenance sheets. After the sheets have been signed by the foreman they are sent to the wages department, who first see that the total time spent by each employee agrees with that shown on his time card in the clocking-in office, and then the direct wages cost is set down for each operation. Thus, supposing the employee in question is paid at the rate of 1/6 per hour and one particular process for order No. 7,261 takes him two hours, then, of course, the wages cost is 3/-. The wages department also make up the weekly wages of each employee.

As soon as the wages department have completed their work on the wages sheets they are passed on to record clerks, who set down under the heading of each order number the processes performed and the labour cost of each, together with the department in which these processes are carried out. General productive labour costs are also recorded by these clerks on a departmental basis.

The firm's books are balanced monthly and the amount of work-in-progress on each particular order must also be obtained each month. Thus, cost sheets are also required which give the value of all steel and stores this order. Incidentally, in calculating the value of work-in-progress, on issued for each order number, together with the productive wages spent on cost equal to 100 per cent. of the direct wages cost is added.

The Calculation of On-Cost.

Since orders pass through a varying number of departments, a general on-cost rate for the works as a whole is of little use in costing a particular order. An on-cost rate must be calculated for each department or sub-department. This on-cost rate is expressed as a fraction or multiple of the total productive wages in each department and is worked out each month. This on-cost rate is often in the neighborhood of 12 in the hot drawing department and 0.6 in the turning shop. The main items which go to make up the overhead expenses are set down below, as are also the methods of allocation to each department.

(a) Consumable stores which cannot be charged to individual orders. Such are acids and other chemicals as well as timber, nails, etc. Such stores can only be taken out from the stock room after a requisition, specifying the department for which required, is given. Thus, the charge on each department is readily obtainable.

(b) Fuel consumed. The person in charge of the fuel stock makes a return, monthly, of the amount issued to each department.

(c) Maintenance. All wages and materials spent on the maintenance of plant, tools and buildings are allocated, where possible, to individual machines, or, failing this, to departments. Thus maintenance costs for each department are readily obtainable. It is useful to know the maintenance costs of each machine, for such knowledge facilitates decisions as to the purchase of new machinery.

(d) Electrical energy. The power engineer sends to the general office the proportions of electrical energy used by each department every month. As the electrical power cost is invoiced monthly by the suppliers, the cost of each department is then easily calculated.

(e) Rent and rates. These are estimated monthly and then divided amongst the departments in proportion to their superficial area.

(f) Works salaries—i.e., salaries of officials on the production side as opposed to the administrative side. These are divided out in accordance with the amount spent on foremen and checkers' salaries, etc.

(g) Depreciation. This is allocated on the basis of the capital equipment in each department.

(h) Office salaries, office expenses, advertising, and other selling expenses are totalled together and distributed over the various departments in proportion to the amounts which have already been charged to the departments. It is, of course, hardly necessary to mention that the expenses set down and divided out amongst the departments are those included in the firm's financial accounts. When all the items of expenditure have been distributed over the departments, the departmental total of such expenditure is divided by the total productive wages spent in each department, and thus the on-cost rate is determined. This on-cost rate is obtained for each month. A moving average of three months and six months is also obtained for use where an order takes longer than a month to pass through the works.

The Costing of an Order.

The Work-in-Progress sheets, already referred to, contain details of all

steel and stores issued on each order, and also all productive wages incurred by that order. The productive wages record clerks have entered all the wages charged to each order by process and by department. Reference to these two sources of information, together with the on-cost book, which contains a statement of the monthly, three-monthly and six-monthly on-cost rates, enables a cost sheet to be prepared with comparative ease. Note, however, that in each department, an appropriate amount must be added to the booked wages charged to each job, in respect of general productive wages. When this is done, the on-cost may be added. Carriage charges must also be included. These are obtained by identifying the items in the railway or road transport companies' accounts with a specific order.

It may be considered that the records made by the productive wages clerks, giving as they do the wages cost of each process, are too detailed. On the other hand, if a piece-rate price is to be fixed at any time, these records are very useful. Suppose, for example, that a piecework price is to be fixed for piercing 3½ in. rounds, the standard size billet for locomotive boiler tubes. Reference to a representative number of these sheets will give the wages cost of this process. If four men have pierced 40 billets in an hour, on an average taken over a reasonable period, and the gang have been receiving 6/8 per hour, then the wages cost of this process has been 2d. If, now, a piece-rate price is fixed, obviously the most suitable one is 2d. per process. It will readily be appreciated that, under these circumstances, whatever the output, the wages cost will not be increased. The extra effort called forth by the piece-rate price will probably result in the same overhead expenses being spread over a larger output.

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As we approach another season, I desire, as your President, to send my very best wishes to each Chapter and to each individual member. Naturally, it is not possible for me to visit each Chapter throughout the Dominion, and thus I must take this opportunity of meeting you through the medium of "Cost and Management." There is no doubt in my mind that we are on the eve of a banner season and you may rest assured that your officers and directors will do their very best to make it so. In a large measure, however, the success of the Society is up to you. If you will take advantage of the services the Society offers, you and the Society will gain much. Co-operation is the keynote of our existence and of our success as an organization and it is my sincere hope that the co-operation of the past will continue. During the past two years the Society has shown a rapid growth and undoubtedly that growth will continue, but much depends on each individual member in this regard.

Your officers and directors will do anything in their power to make the coming season the best in the history of the Society and asks sincerely for your help.

Regular attendance at meetings and interest shown in the activities of the Chapters will do much and I believe we can count on this even more so than in the past.

A. G. HOWEY,
President.

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